

(12) UK Patent Application (19) GB (11) 2 105 984 A

(21) Application No 8023202
(22) Date of filing 16 Jul 1980
(43) Application published
7 Apr 1983

(51) INT CL³
A47C 27/10

(52) Domestic classification
A4M 1B1 1B4 1B9 1BX

(56) Documents cited
GB 1483045
GB 1186489

(58) Field of search
A4M

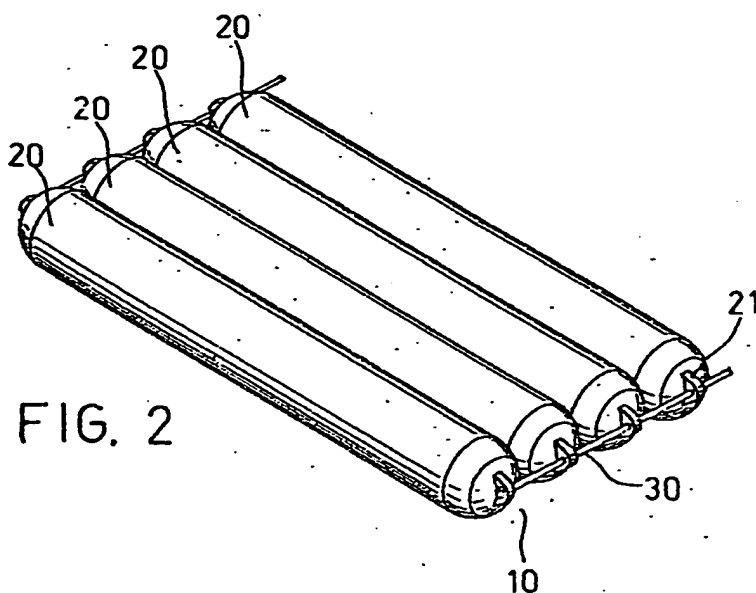
(71) Applicant
Bill Chien Jen Kao
Room 8A,
Ta-Fong Building,
210 Nan-King E. Road,
Sec 3,
Taipei,
Taiwan

(72) Inventor
Bill Chien Jen Kao

(74) Agents
Withers and Rogers,
4 Dyer's Buildings,
Holborn,
London EC1N 2JT

(54) Adjustable and shape variable
pneumatic cushion

(57) The present invention provides a
connecting type pneumatic cushion
comprising a plurality of cushion units
which are attached by using strings or
equivalent attaching means. The
pneumatic cushion can be changed into
various shapes and used as different
inflatable articles.



Best Available Copy

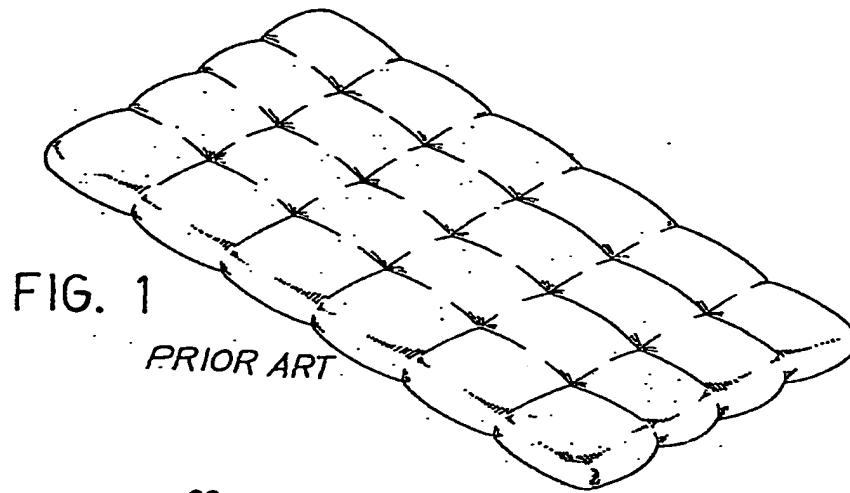


FIG. 1

PRIOR ART

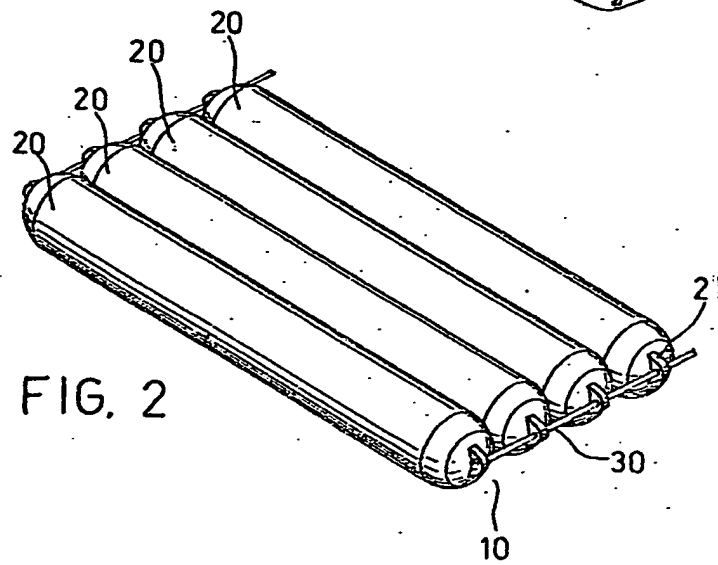


FIG. 2

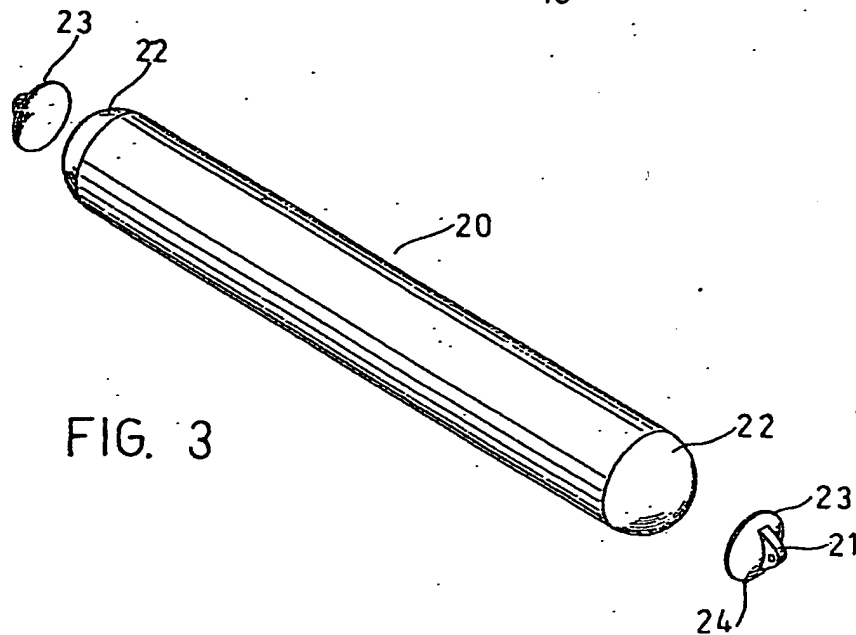
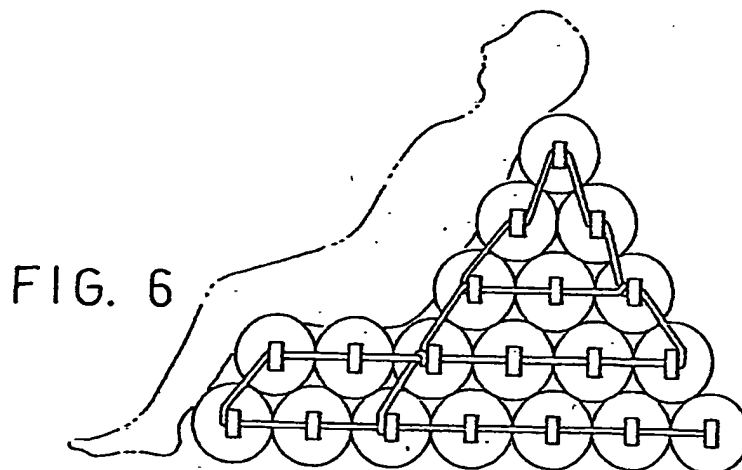
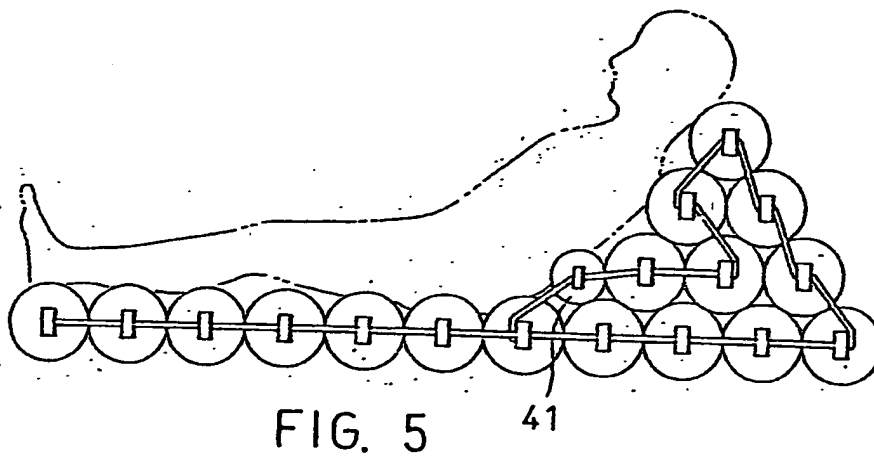
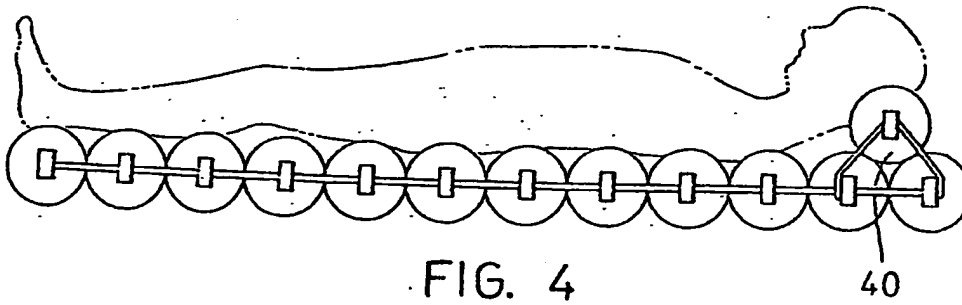


FIG. 3



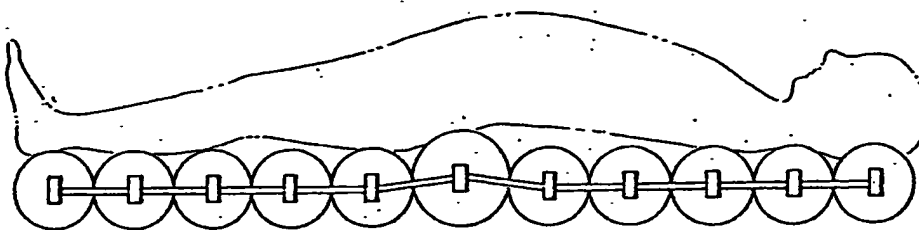


FIG. 7

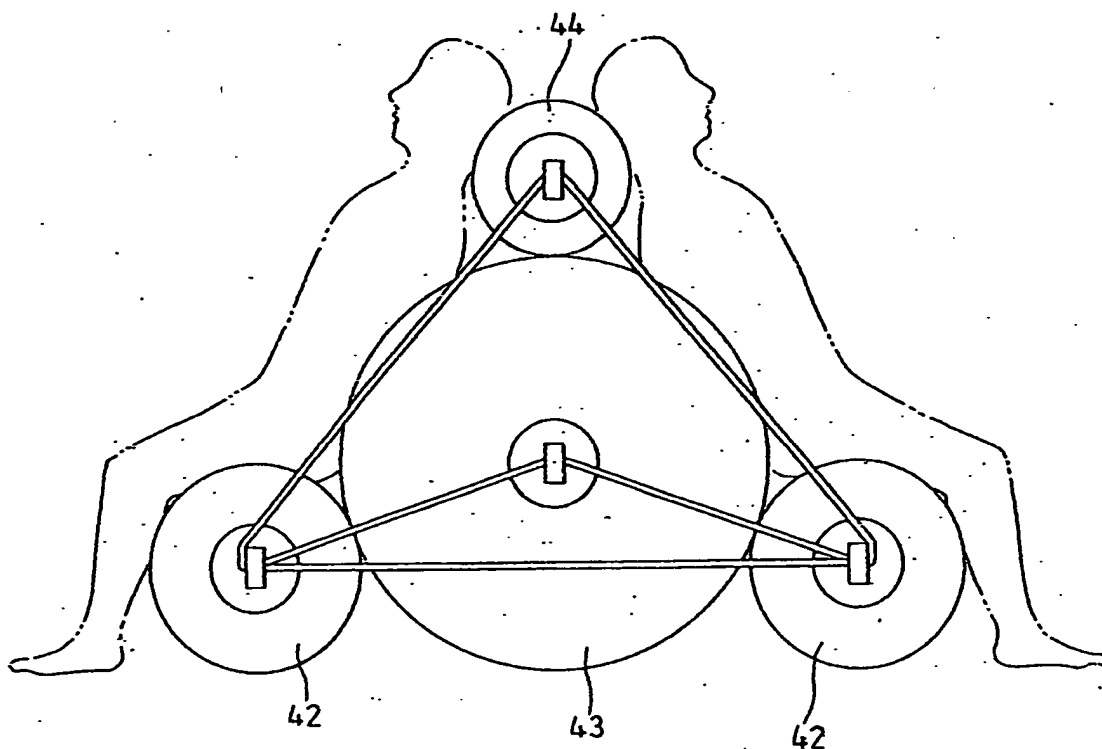


FIG. 8

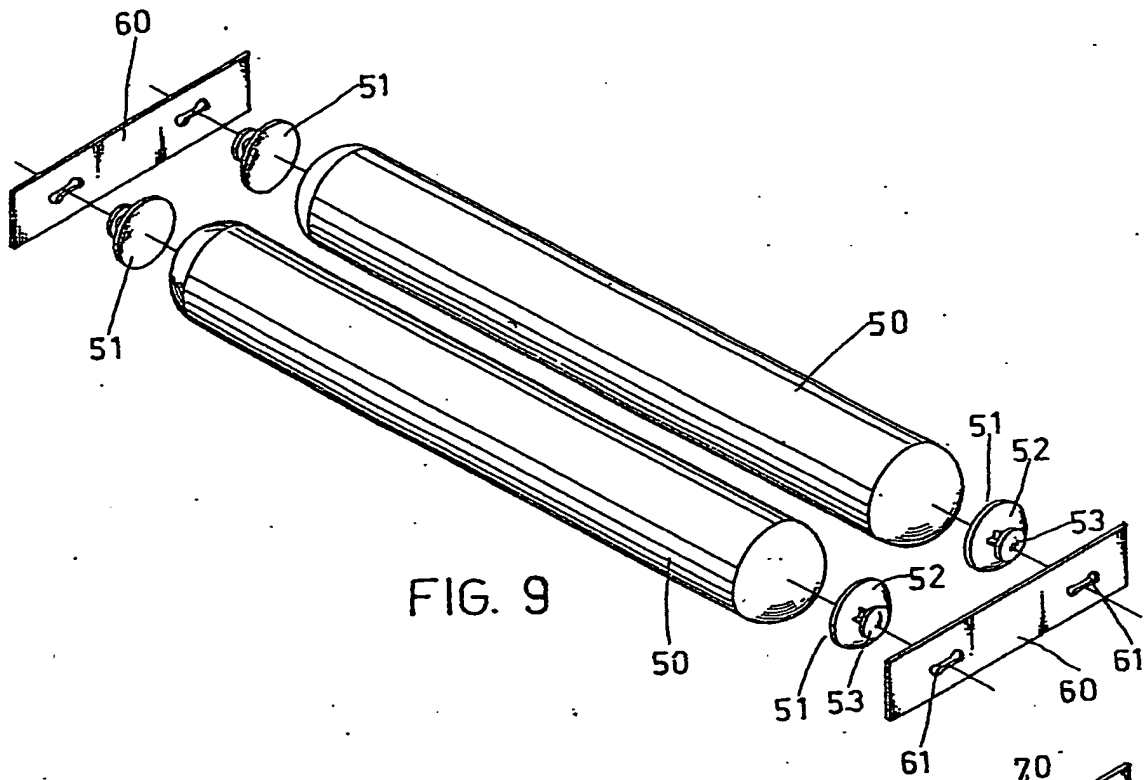


FIG. 9

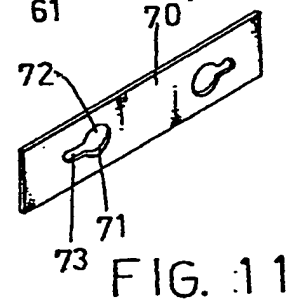


FIG. 11

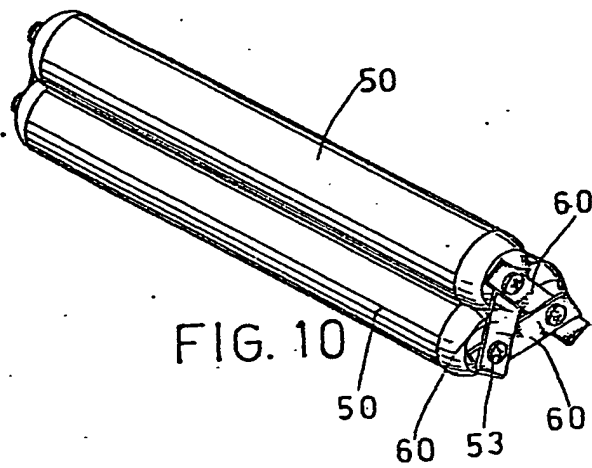


FIG. 10

SPECIFICATION

Adjustable and shape variable pneumatic cushion

5 The present invention relates to a connecting type pneumatic cushion, particularly to one changeable in the shape thereof.

The conventional pneumatic cushions, most likely shown in Fig. 1, are made of plastics sheets and then
10 inflated to be used as water rafts. These kind of conventional pneumatic cushions or rafts are easily damaged when they are stuck by pins, nails or the like because the integral nature thereof. Further, the shape of the conventional pneumatic cushions are
15 not changeable and thus the users will not have very high interests in playing them.

It is the main object of the present invention to provide a connecting type pneumatic cushion which comprises a plurality of cushion units substantially
20 in cylindrical shape and attached with each other by strings or other attaching means to form an integral one. The whole pneumatic cushion will preserve its function if one of the cushion units is broken.

Another object of the present invention is to
25 develop a cushion unit acting as the combination element of the pneumatic cushions. The cushion units can be made in different dimensions and can be combined in different orientations to form a pneumatic cushion used as beach cushion, raft,
30 cushioned furniture, life saving article on water, sporting or camping apparatus, etc. . .

According to the present invention, a pneumatic cushion made of a plurality of cushion units which are attached with each other by leading a string or
35 strings passing through the connecting rings of the cushion units to form a pneumatic cushion capable of being changed into different shapes.

Other objects and advantages will become apparent from the following detailed description of the
40 present invention with reference to the accompanying drawings.

Fig. 1 is a perspective view of a conventional pneumatic cushion;

Fig. 2 is a perspective view of the pneumatic
45 cushion according to the present invention;

Fig. 3 is an exploded view of the cushion unit of the pneumatic cushion according to the present invention;

Fig. 4 is a side view of an embodiment of
50 pneumatic cushion according to the present invention;

Fig. 5 is a side view of another embodiment of pneumatic cushion according to the present invention;

Fig. 6 is a side view of a third embodiment of the
55 pneumatic cushion according to the present invention;

Fig. 7 is a side view of a fourth embodiment of the
60 pneumatic cushion according to the present invention;

Fig. 8 is a side view of a fifth embodiment of the pneumatic cushion according to the present invention.

Fig. 9 is an exploded view of another embodiment
65 of the cushion unit and the connecting belt;

Fig. 10 is a perspective view of a set of cushion units showing the connection of the connecting belt;
and

Fig. 11 is a perspective view of a connecting belt
70 having a pair of specially designed holes.

Referring to Fig. 2 which shows a perspective view of the connecting type pneumatic cushion, the pneumatic cushion 10 comprises a plurality of cushion units 20 which are connected or attached by
75 leading a string 30 through the connecting rings 21 of the cushion units 20 and then fastened. The cushion units 20 are inflated to preserve a certain flexibility and so they can be attached with each other tightly. It is to be noted that another string is
80 used to connect the cushion units on the opposite end thereof. Besides, the strings can be replaced by other equivalent connecting or attaching means.

Referring to Fig. 3 which shows an exploded view of the cushion unit, the cushion unit 20 substantially
85 in cylindrical shape, has a pair of connecting means 23 heat sealed on the end faces 22 of the cushion unit 20. The connecting means 23 comprises a soft plastics base 24 and a connecting ring 21 integrally moulded with said base 24.

Fig. 4 to 8 show the various embodiments of the
90 pneumatic cushion according to the present invention. In Fig. 4, a cushion unit 40 is piled on others acting as a pillow for a user to lie on the back. Fig. 5 shows a cushioned chair wherein a cushion unit 41 is
95 in a smaller dimension for the users to have more comfortable feeling. A cushioned chair is shown in Fig. 6. In Fig. 7, a plurality of cushion units of different diameters are connected forming a pneumatic cushion having a protrusion on the
100 middle portion thereof to be used as sporting or medical bed. In Fig. 8, there is shown a double back chair wherein the cushion units 42 are chair cushions, 43 is chair back and 44 is the head rest.

Referring to Fig. 9 which shows an exploded view
105 of two cushion units, each cushion unit 50 substantially in cylindrical shape, has a pair of connecting means 51 heat sealed on the end faces of the cushion unit 50. The connecting means 51 further comprises a soft plastics base 52 and a protruded
110 button 53 integrally moulded with said base 52. Two connecting belts 60 each having a pair of holes 61 formed thereon, are used to connect together the two cushion unit 50.

Fig. 10 shows three cushion units 50 are connected
115 by three connecting belts 60. And Fig. 11 shows an embodiment of the connecting belt 70 having a pair of specially designed holes 71 formed thereon. The hole 71 comprises a round portion 72 and a slot portion 73 thereby making the belt 70 can be made
120 of hard material.

It is to be noted that the distance between the two holes of the connecting belt had better be smaller than the diameter of the cushion unit so that a tighter connection of the cushion units can be achieved.

125 As this invention may be embodied in several forms without departing from the spirit of the

essential characteristics thereof, the present embodiment is therefore illustrative and not restrictive, since the scope of the invention is defined by the appended claims rather than the description proceeding them, and all changes that fall within the meets and bounds of the claims, or equivalence of such meets and bounds are therefore intended to be embraced by the claims.

CLAIMS

- 10 1. A connecting type pneumatic cushion comprising a plurality of cushion units connected or attached by strings passing through the connecting rings or fastening on the same of said cushion units.
2. A connecting type pneumatic cushion according to Claim 1 wherein said cushion units are inflatable and in cylindrical shape; having attaching or connecting means heat sealed on the end faces thereof.
3. A connecting type pneumatic cushion according to Claim 2 wherein said attaching or connecting means comprises a flexible base and a connecting ring integrally moulded.
4. A connecting type pneumatic cushion comprising a plurality of cushion units connected by connecting belts fastened to the connecting buttons of the of the cushion units.
5. A connecting type pneumatic cushion according to Claim 4 wherein said connecting belt comprises a pair of holes fastened to the buttons of the adjacent two cushion units.
6. A pneumatic cushion comprising an inflatable body in cylindrical shape, a pair of connecting means heat sealed on the end faces of said body; said connecting means have a flexible base and a connecting ring integrally moulded thereon.

Printed for Her Majesty's Stationery Office by The Tweeddale Press Ltd.,
Berwick-upon-Tweed, 1983.
Published at the Patent Office, 25 Southampton Buildings, London, WC2A 1AY,
from which copies may be obtained.

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☒ FADED TEXT OR DRAWING
- ☐ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☐ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.